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**PVM800M7 Series, V1.0**
**PM800/November 2004**



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## Static Electricity Precautions

Static electricity could damage components on this motherboard. Take the following precautions while unpacking this motherboard and installing it in a system.

1. Don't take this mainboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

## Pre-Installation Inspection

1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this mainboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.



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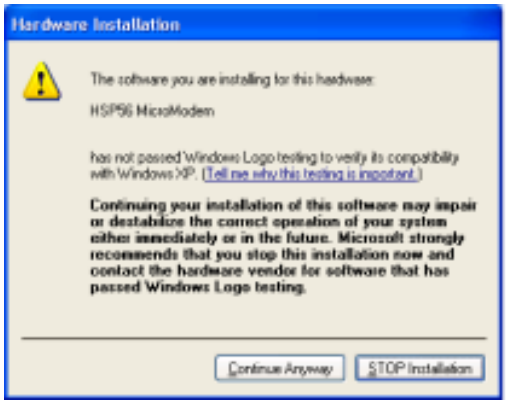
## Notice:

1. Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pop out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.


Hardware Installation
The software you are installing for this hardware:
HSP56 MicroModem
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

2. USB 2.0 Driver Limitations:
   2-1.The USB 2.0 driver only supports Windows XP and Windows 2000.
   2-2.If you connect a USB 2.0 hub to the root hub, plugging USB devices into this hub, the system might not success fully execute certain USB devices' connection because it could not recognize these devices.



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# Chapter 1 Introduction

This motherboard has a **LGA775 socket** for latest **Intel Pentium 4/Celeron** processors with **Hyper-Threading Technology** and Front-Side Bus (FSB) speeds up to **800** MHz. Hyper-Threading Technology, edsigned to take advantage of the multitasking features in Windows XP, gives you the power to do more things at once.

This motherboard integrates the **VIA PM800** Northbridge along with **VT8237** Southbridge that supports the **Serial ATA** interface for high-performance and mainstream desktop PCs; the built-in **USB 2.0** providing higher bandwidth, implementing **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 1.0**.

It supports 6-channel **AC'97 Audio Codec** and provides one **IDE Ultra DMA 133**/100/66 channel. It has one **8x AGP**, one **CNR** (Communications and Networking Riser), and three 32-bit **PCI** slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one VGA port, one serial port, one parallel port, one LAN port (optional), three audio jacks for micropone, line-in and line-out, four back-panel USB 2.0 ports and onboard USB headers USB2/USB3 providing four extra ports by connecting the extended USB module to the motherboard.

It is a **Micro ATX** motherboard and has power connectors for an ATX power supply.



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## Key Features

The key features of this motherboard include:

### LGA775 Socket Processor Support

- Supports the latest **Intel Pentium 4/Celeron Series** processors
- Supports up to **800 MHz** Front-Side Bus

***Hyper-Threading*** *technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate 'logical' processors within the same physical processor.*

### Chipset

There are **VIA PM800 Northbridge** and **VT8237 Southbridge** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- Defines Highly Integrated Solutions for Performance PC Desktop Designs—High performance Northbridge with 800/533 MHz Front Side Bus for Pentium 4 plus AGP 8x external bus.
- Provide superior performance between the CPU, DRAM, Ultra V-Link bus and AGP 8x graphics controller bus with pipelined, burst, and concurrent operation.
- Full Featured Accelerated Graphics Port (AGP) Controller —AGP v3.0 compliant with 8x transfer mode.
- Advanced High-Performance DDR SDRAM Controller — Supports DDR400, DDR333, DDR266, and DDR200 double-data-rate synchronous DRAM.
- Integrated Graphics with 2D/3D Video Acceleration.
- High Bandwidth 1GB/sec 16-bit Ultra V-Link Host Controller —Configurable outstanding transaction queue for Host to Ultra V-Link Client accesses.
- Advanced System Power Management Support – ACPI 1.0B and PCI Bus Power Management 1.1 compliant.



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- PCI to system memory data streaming up to 132Mbyte/sec (data sent to north bridge via high speed Ultra V-Link interface)
- PCI-2.2 compliant, 32-bit 3.3V PCI interface with 5V tolerant inputs
- Support three PCI slots of arbitration and decoding for all integrated functions and LPC bus.
- Dual Channel Serial ATA/RAID Controller—Complies with Serial ATA Specification Revision 1.0

### Memory Support

- Two 184-pin 2.5V DIMM sockets for DDR SDRAM memory modules
- Supports **DDR 400**/333/266/200 memory bus
- Maximum installed memory is 2GB

### Expansion Slots

- One 8x AGP slot
- Three 32-bit PCI slots for PCI 2.2-compliant bus interface
- One Communications and Networking Riser (CNR) slot

### Onboard IDE channels

- Two IDE connectors
- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of **133**/100/66 MB/sec

### Serial ATA

- Two Serial ATA Connectors
- Transfer rate exceeding best ATA (~150 MB/s) with scalability to higher rates
- Low pin count for both host and devices

### AC'97 Audio Codec

- Compliant with AC'97 2.3 specification



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- 16-bit Stereo full-duplex CODEC with independent and variable sampling rate
- Support for 3.3v digital, 5v analog power supply and low power consumption management
- Three analog line-level stereo inputs with 5-bit volume control: LINE_IN, CD, AUX
- Front-Out, Surround-Out, MIC-In and LINE-In Jack Sensing
- Two analog line-level mono input
- Standard 48-Pin LQFP

### Onboard I/O Ports

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- One VGA port
- One LAN port (optional)
- Four back-panel USB2.0 ports
- Audio jacks for microphone, line-in and line-out

### Fast Ethernet LAN (optional)

- **100Base-TX/10Base-T Physical Layer Solution**
- Dual Speed - 100/10 Mbps
- Auto-Negotiation: 10/100, Full/Half Duplex
- Meet All Applicable IEEE802.3, 10Base-T and 100Base-TX Standards

### USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Intel's Enhanced Host Controller Interface Specification Revision 1.0
- Compliant with Universal Host Controller Interface Specification Revision 1.1



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- PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
- Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller, up to eight functional ports
- Support PCI-Bus Power Management Interface Specification release 1.1
- Legacy support for all downstream facing ports

### BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters and memory timing
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

### Dimensions

- Micro ATX form factor of 244 x 220 mm

***Note**: Hardware specifications and software items are subject to change without notification.*



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## Package Contents

Your motherboard package ships with the following items:

- The motherboard
- The User's Guide
- One diskette drive ribbon cable (optional)
- One IDE drive ribbon cable
- The Software support CD

### Optional Accessories

You can purchase the following optional accessories for this motherboard.

- The Extended USB module
- The CNR v.90 56K Fax/Modem card
- The Serial ATA cable
- The Serial ATA power cable

***Note**: You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.*



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# Chapter 2 Motherboard Installation

To install this motherboard in a system, please follow these instructions in this chapter:

- Identify the motherboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this motherboard in a system chassis (case)
- Connect any extension brackets or cables to headers/ connectors on the motherboard
- Install peripheral devices and make the appropriate connections to headers/connectors on the motherboard

**Note:**

1. Before installing this motherboard, make sure jumper JP3 is under Normal setting. See this chapter for information about locating JP3 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.



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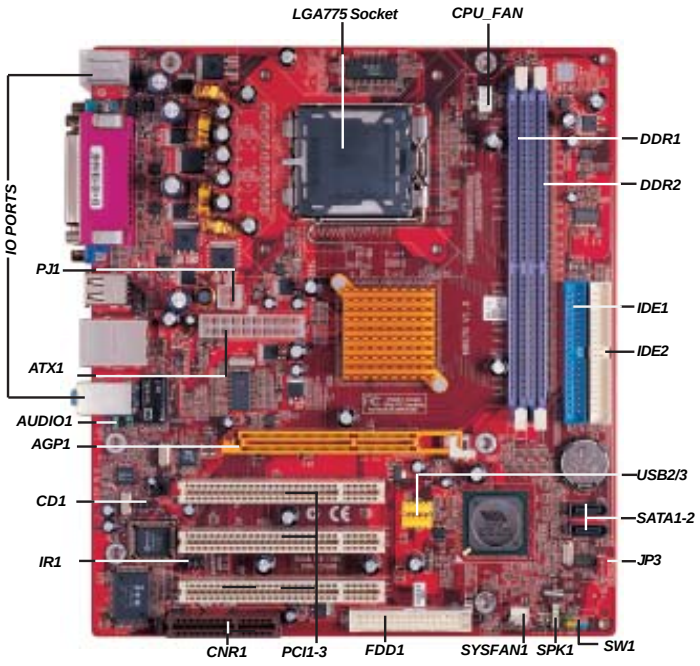
# Motherboard Components



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| *LABEL* | *COMPONENTS* |
|---|---|
| *CPU_FAN* | *CPU Fan connector* |
| *DDR1-2* | *Two 184-pin DDR SDRAM sockets* |
| *ATX1* | *Standard 20-Pin ATX Power connector* |
| *PJ1* | *Standard 4-Pin ATX Power connector* |
| *IDE1/2* | *IDE connector* |
| *SYSFAN1* | *Chasis cooling fan connector* |
| *SATA1-2* | *Serial ATA connectors* |
| *JP3* | *Clear CMOS jumper* |
| *SW1* | *Front Panel Switch/LED header* |
| *FDD1* | *Floppy Disk Drive connector* |
| *IR1* | *Infrared header* |
| *USB2/3* | *Front Panel USB headers* |
| *SPK1* | *Speaker header* |
| *PCI 1-3* | *32-bit PCI slots* |
| *CD1* | *Analog Audio Input header* |
| *AUDIO1* | *Front Panel Audio header* |
| *AGP1* | *AGP slot* |
| *CNR* | *CNR slot* |



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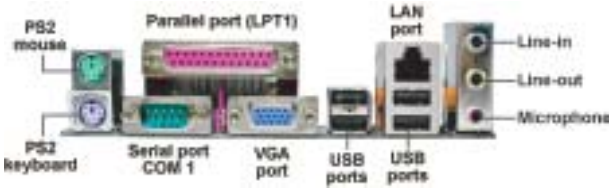
## I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.




| | |
|---|---|
| ***PS/2 Mouse*** | *Use the upper PS/2 port to connect a PS/2 pointing device.* |
| ***PS/2 Keyboard*** | *Use the lower PS/2 port to connect a PS/2 keyboard.* |
| ***Parallel Port (LPT1)*** | *Use the Parallel port to connect printers or other parallel communications devices.* |
| ***COM1*** | *Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.* |
| ***VGA*** | *Use the VGA port to connect VGA devices.* |
| ***LAN Port (optional)*** | *Connect an RJ-45 jack to the LAN port to connect your computer to the Network.* |
| ***USB Ports*** | *Use the USB ports to connect USB devices.* |
| ***Audio Ports*** | *Use these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.* |



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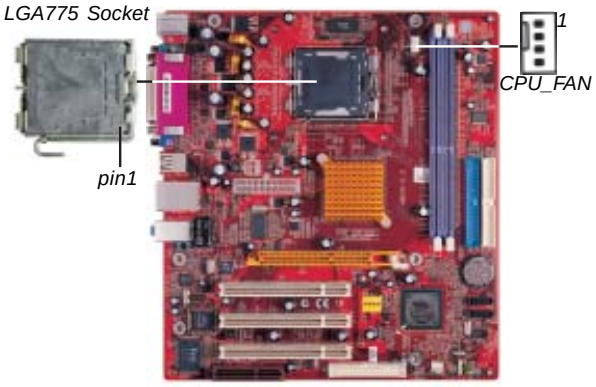
## Installing the Processor

This motherboard has a **LGA775** socket for the latest **Intel Pentium 4/Celeron** processors. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

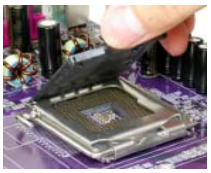
### CPU Installation Procedure

Follow these instructions to install the CPU:




A. Unload the cap

- Use thumb & forefinger to hold the lifting tab of the cap.
- Lift the cap up and remove the cap completely from the socket.



B. Open the load plate

- Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
- Lift up the lever.
- Use thumb to open the load plate.

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Be careful not to touch the contacts.

C. Install the CPU on the socket

- Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.

D. Close the load plate

- Slightly push down the load plate onto the tongue side, and hook the lever.
- CPU is locked completely.

E. Apply thermal grease on top of the CPU.

F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

G. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.

---

***Note**: To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/ heatsink may also vary.*

---



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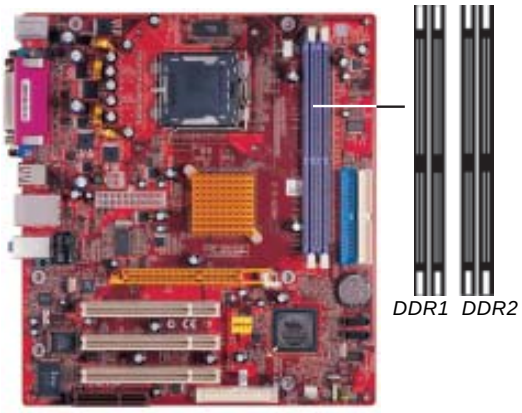
## Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V DIMM sockets (Dual Inline Memory Module) for unbuffered **DDR 400**/ 333/266/200 memory modules (Double Data Rate SDRAM) and maximum 2.0 GB installed memory.

DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. DDR DIMMs can synchronously work with 400/333/266/200 MHz memory and provide 3.2 GB/s, 2.7 GB/s, 2.1 GB/s and 1.6GB/s data transfer rate.



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## Memory Module Installation Procedure

These modules can be installed with up to 2 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.

3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.

4. Install any remaining DIMM modules.



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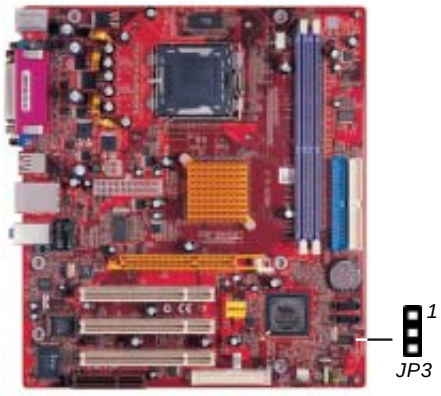
## Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.




### JP3: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

| *Function* | *Jumper Setting* |
|---|---|
| *Normal* | *Short Pins 1-2* |
| *CMOS Clear* | *Short Pins 2-3* |



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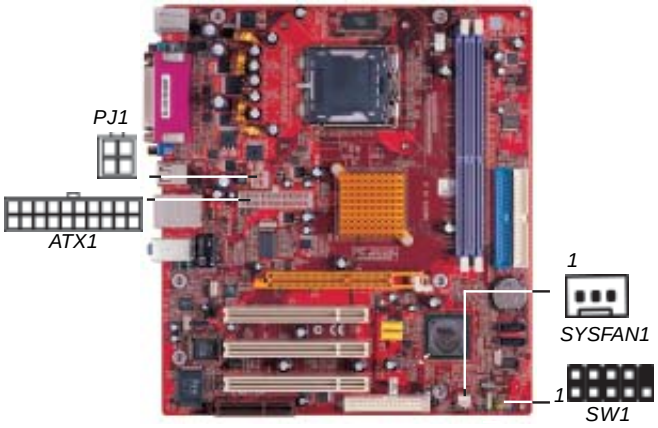
## Install the Motherboard

Install the motherboard in a system chassis (case). The board is a Micro ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.




Connect the power connector from the power supply to the **ATX1** connector on the motherboard. The **PJ1** is a +12V connector for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSFAN1** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **SW1** header.



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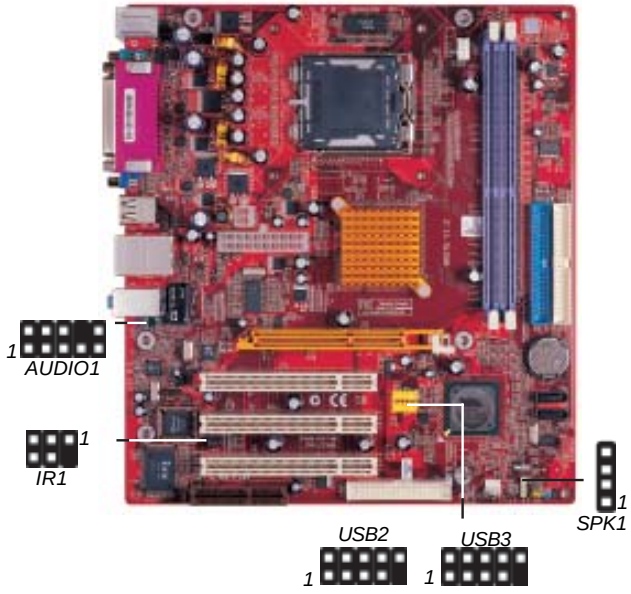
Please refer to the following list of the SW1 pin assignments.

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 1 | HD_LED_P(+) | 2 | FP PWR/SLP(+) |
| 3 | HD_LED_N(-) | 4 | FP PWR/SLP(-) |
| 5 | RESET_SW_N(-) | 6 | POWER_SW_P(+) |
| 7 | RESET_SW_P(+) | 8 | POWER_SW_N(-) |
| 9 | RSVD_DNU | 10 | KEY |

## Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



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### AUDIO1: Front Panel Audio Header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 1 | AUD_MIC | 2 | AUD_GND |
| 3 | AUD_MIC_BIAS | 4 | AUD_VCC |
| 5 | AUD_FPOUT_R | 6 | AUD_RET_R |
| 7 | HP_ON | 8 | KEY |
| 9 | AUD_FPOUT_L | 10 | AUD_RET_L |

### USB2/USB3: Front Panel USB Header

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB headers USB2/USB3 to connect the front-mounted ports to the motherboard.

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 1 | VERG_FP_USBPWR0 | 2 | VERG_FP_USBPWR0 |
| 3 | USB_FP_P0(-) | 4 | USB_FP_P1(-) |
| 5 | USB_FP_P0(+) | 6 | USB_FP_P1(+) |
| 7 | GROUND | 8 | GROUND |
| 9 | KEY | 10 | USB_FP_OC0 |

1. Locate the USB2/USB3 header on the motherboard.
2. Plug the bracket cable onto the USB2/USB3 header.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.



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### SPK1: Speaker Header

Connect the cable from the PC speaker to the SPK1 header on the motherboard.

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 1 | Vcc5 | 2 | NC |
| 3 | GND | 4 | SPKR |

### IR1: Infrared Header

The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

| Pin | Signal | Pin | Signal |
|---|---|---|---|
| 1 | NC | 2 | KEY |
| 3 | VCC5 | 4 | GND |
| 5 | IRTX | 6 | IRRX |

1. Locate the infrared port-**IR1** header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 header and then secure the port to an appropriate place in your system chassis.



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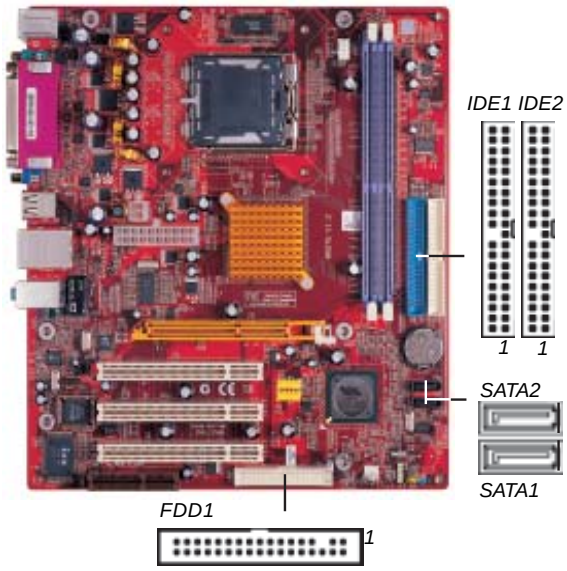
## Install Other Devices

Install and connect any other devices in the system following the steps below.



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## Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD1**.

## IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the motherboard.

If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector **IDE2** on the motherboard. If you have two devices on the cable, one must be Master and one must be Slave.

## Serial ATA Devices

The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC plat-



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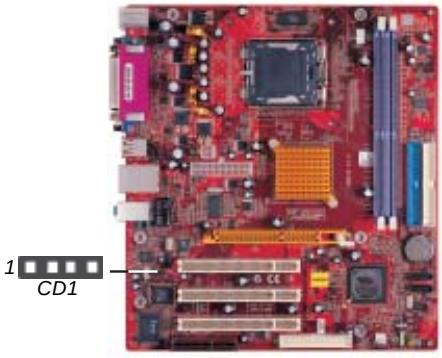
forms. It provides you a faster transfer rate of **150 MB/s**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connecter on the motherboard.

On the motherboard, locate the Serial ATA connectors **SATA1-2**, which support new Serial ATA devices for the highest data transfer rates, simpler disk drive cabling and easier PC assembly.

It eliminates limitations of the current Parallel ATA interface, but maintains register compatibility and software compatibility with Parallel ATA.

### Analog Audio Input Header

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.




When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

| *Pin* | *Signal* |
|---|---|
| *1* | *CD IN L* |
| *2* | *GND* |
| *3* | *GND* |
| *4* | *CD IN R* |



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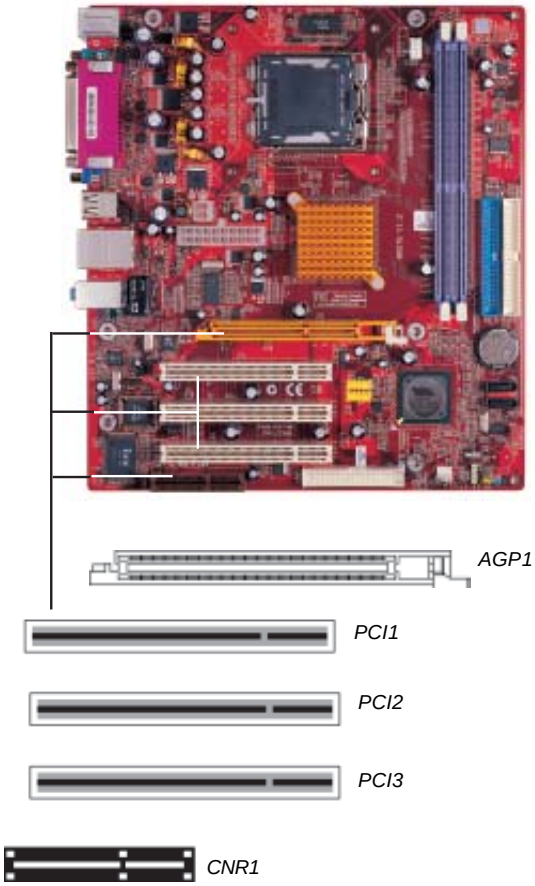
## Expansion Slots

This motherboard has one AGP, one CNR and three 32-bit PCI slots.



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Follow the steps below to install an AGP/CNR/PCI/PCI Express expansion card.

1. Locate the AGP, CNR, PCI and PCI Express slots on the motherboard.
2. Remove the blanking plate of the slot from the system chassis.
3. Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.
4. Secure the metal bracket of the card to the system chassis with a screw.

### 8x/4x AGP Slot

You can install a graphics adapter that supports the 8x/4xAGP specification and has a 8x/4x AGP edge connector in the AGP slot.

### CNR Slot

You can install the CNR (Communications and Networking Riser) cards in this slot, including LAN, Modem, and Audio functions.

### PCI Slots

You can install the 32-bit PCI interface expansion cards in the slots.



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# Chapter 3 BIOS Setup Utility

## Introduction

The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.



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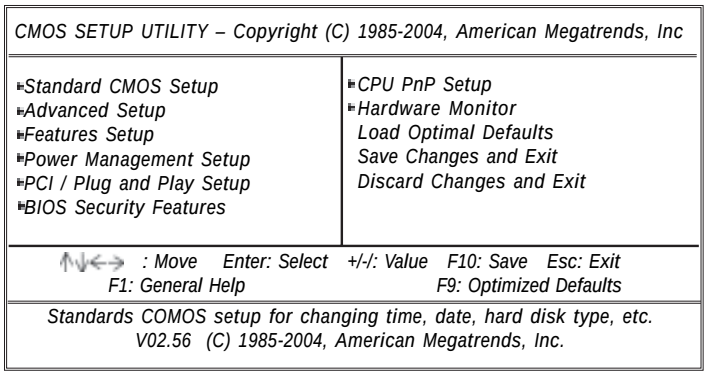
## Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "*Hit <DEL>if you want to run SETUP*". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.


CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc
Standard CMOS Setup
Advanced Setup
Features Setup
Power Management Setup
PCI / Plug and Play Setup
BIOS Security Features
CPU PnP Setup
Hardware Monitor
Load Optimal Defaults
Save Changes and Exit
Discard Changes and Exit
: Move Enter: Select +/-/: Value F10: Save Esc: Exit
F1: General Help
F9: Optimized Defaults
Standards COMOS setup for changing time, date, hard disk type, etc.
V02.56 (C) 1985-2004, American Megatrends, Inc.

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/-/ to modify the selected field's values.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **+** and **-** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting **[OK]** or **[Cancel]**.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values.



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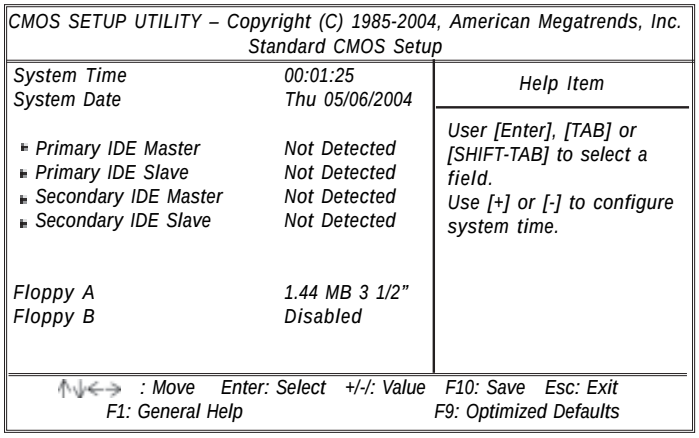
## Standard CMOS Setup Page

This page displays a table of items defining basic information about your system.




### Date & Time

These items set up system date and time.

### Primary IDE Master/Primary IDE Slave/Secondary IDE Master/Secondary IDE Slave

These items configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM*. If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120), select *Floptical*.

### Floppy A/Floppy B

These items set up size and capacity of the floppy diskette drive(s) installed in the system.



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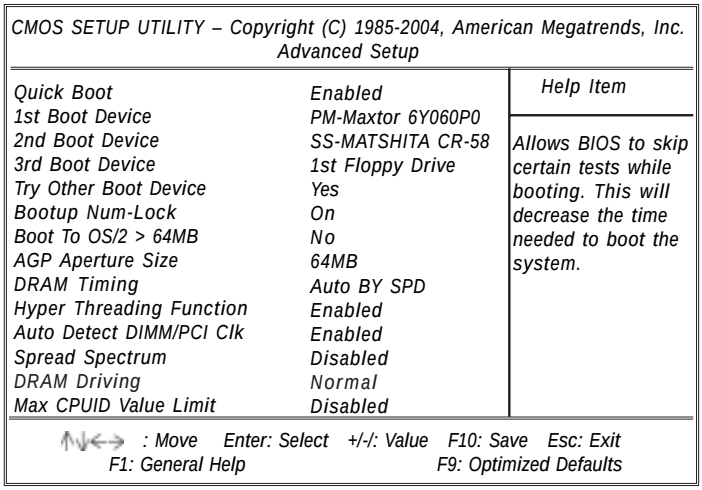
## Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.


CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
Advanced Setup
Quick Boot Enabled
1st Boot Device PM-Maxtor 6Y060P0
2nd Boot Device SS-MATSHITA CR-58
3rd Boot Device 1st Floppy Drive
Try Other Boot Device Yes
Bootup Num-Lock On
Boot To OS/2 > 64MB No
AGP Aperture Size 64MB
DRAM Timing Auto BY SPD
Hyper Threading Function Enabled
Auto Detect DIMM/PCI Clk Enabled
Spread Spectrum Disabled
DRAM Driving Normal
Max CPUID Value Limit Disabled
Help Item
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
: Move Enter: Select +/-/: Value F10: Save Esc: Exit
F1: General Help
F9: Optimized Defaults

### Quick Boot

If you enable this item, the system starts up more quickly be elimination some of the power on test routines.

### 1st Boot Device/2nd Boot Device/3rd Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

### Try Other Boot Device

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

### BootUp Num-Lock

This item determines if the Num Lock key is active or inactive at system start-up time.



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**Boot To OS/2> 64MB**

Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

**AGP Aperture Size**

This item defines an AGP for the graphics. Leave this item at the default value 64MB.

**DRAM Timing**

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical.

**Hyper-Threading Function**

If your P4 CPU is not HT CPU, this item will be hidden. If your P4 CPU is HT CPU, BIOS will show this item. You can set "Disabled" or "Enabled" to control HT CPU support in O.S. Set "Enabled" to test HT CPU function.

**Auto detect DIMM/PCI Clock**

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

**Spread Spectrum**

Use this item to set the system bus spread spectrum for the installed processor.

**DRAM Driving**

The default value is "Normal". If the system is unstable while using some DDR SDRAMs, you may select "High" option.

**Max CPUID Value Limit**

When this item is enabled, you can use Prescott CPU and LGA-775 CPU and there will be a normal NT4.0 installation; otherwise, the automatic restarting will occur while installing.



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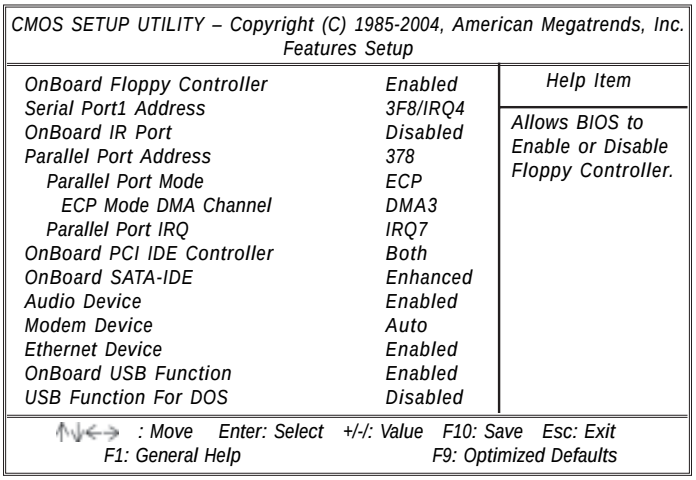
## Features Setup Page

This page sets up some parameters for peripheral devices connected to the system.


CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
Features Setup
OnBoard Floppy Controller Enabled
Serial Port1 Address 3F8/IRQ4
OnBoard IR Port Disabled
Parallel Port Address 378
Parallel Port Mode ECP
ECP Mode DMA Channel DMA3
Parallel Port IRQ IRQ7
OnBoard PCI IDE Controller Both
OnBoard SATA-IDE Enhanced
Audio Device Enabled
Modem Device Auto
Ethernet Device Enabled
OnBoard USB Function Enabled
USB Function For DOS Disabled
Help Item
Allows BIOS to Enable or Disable Floppy Controller.
: Move Enter: Select +/-/: Value F10: Save Esc: Exit
F1: General Help
F9: Optimized Defaults

### OnBoard Floppy Controller

Use this item to enable or disable the onboard floppy disk drive interface.

### Serial Port1 Address

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

### Onboard IR Port

Use this item to enable or disable the onboard IR port function.

### Parallel Port Address

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

### Parallel Port Mode (ECP)

Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities



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Port), EPP (Enhanced Parallel Port) or EPP&ECP (Enhanced Parallel Port & Extended Capabilities Port).

**ECP Mode DMA Channel**

Use this item to assign the DMA Channel under ECP Mode function.

**Parallel Port IRQ**

Use this item to assign IRQ to the parallel port.

**OnBoard PCI IDE Controller**

Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.

**OnBoard SATA-IDE**

Use this item to enable or disable the onboard IDE channel.

**Audio Device**

Use this item to enable or disable the onboard audio.

**Modem Device**

This item enables or disables the MC'97 modem chip.

**Ethernet Device**

Use this item to enable or disable the onboard Ethernet.

**Onboard USB Function**

Enable this item if you plan to use the USB ports on this motherboard.

**USB Function For DOS**

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.



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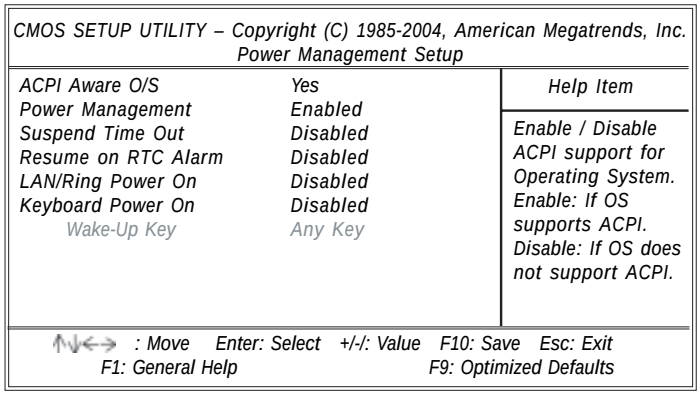
## Power Management Setup Page

This page sets some parameters for system power management operation.




### ACPI Aware O/S

This itme supports ACPI (Advanced Configuraion and Power Management Interface). Use this item to enable or disable the ACPI feature.

### Power Management

Use this item to enable or disable a power management scheme. If you enable power management, you can use this item below to set the power management operation. Both APM and ACPI are supported.

### Suspend Time Out

This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.



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**Resume on RTC Alarm**

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

**LAN/Ring Power On**

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem/Ring, or traffic on the network adapter. You must use an ATX power supply in order to use this feature.

**Keyboard Power On/Wake-Up Key**

If you enable this item, system can automatically resume by pressing any keys, hot or power key on the keyboard, or typing in the password . You must use an ATX power supply in order to use this feature.



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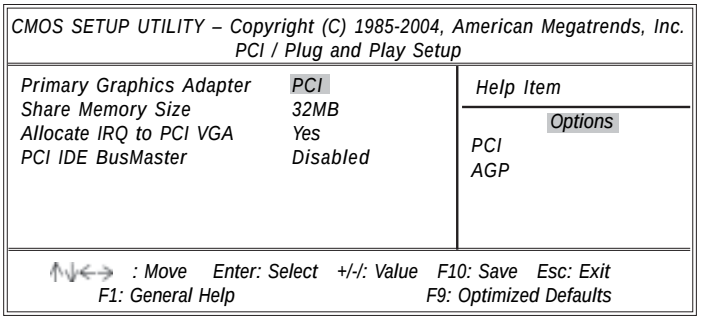
## PCI / Plug and Play Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.




### Primary Graphics Adapter

This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default PCI setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.

### Share Memory Size

This item lets you allocate a portion of the main memory for the onbaord VGA display application with these options of 64/32/16/8 MB.

### Allocate IRQ to PCI VGA

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

### PCI IDE BusMaster

This item enables or disabled the DMA under DOS mode. We recommend you to leave this item at the default value.



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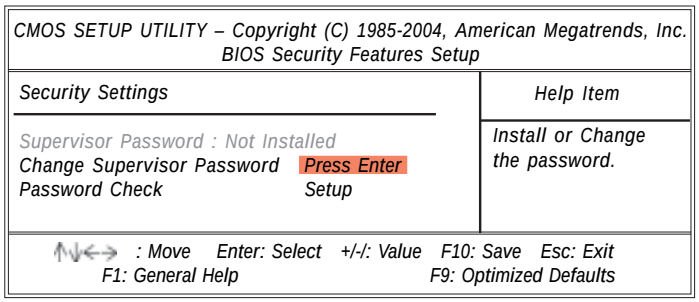
## BIOS Security Features Setup Page

This page helps you install or change a password.




### Supervisor Password

This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

### Change Supervisor Password

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

### Password Check

This item enables users to choose the time when the system will perform password check.



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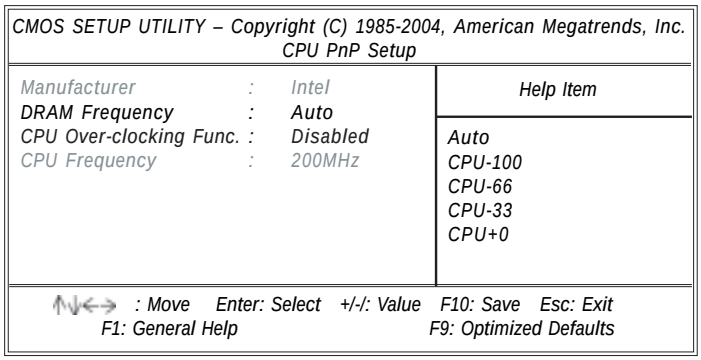
## CPU PnP Setup Page

This page helps you manually configure the mainboard for the CPU. The system will automatically detect the type of installed CPU and make the appropriate adjustments to the items on this page.




**Manufacturer**

This item shows the brand of the CPU installed in your system.

**DRAM Frequency**

This item shows the frequency of the DRAM in your system.

**CPU Over-clocking Func.**

This item decides the CPU over-clocking function installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

**CPU Frequency**

This item shows the frequency of the CPU installed in your system.



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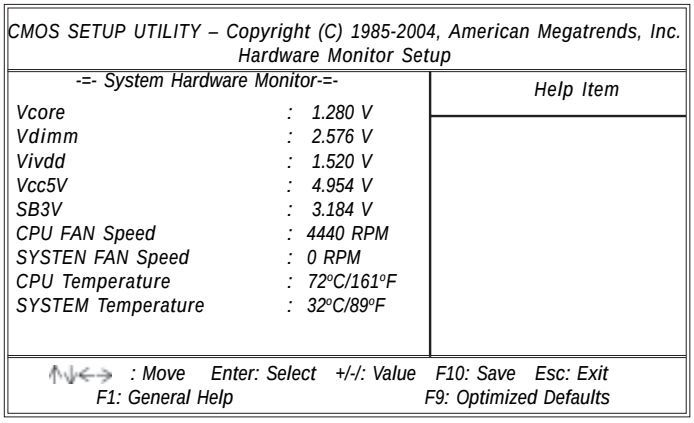
## Hardware Monitor Page

This page sets up some parameters for the hardware monitoring function of this motherboard.


CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
Hardware Monitor Setup
-=- System Hardware Monitor-=-
Help Item
Vcore : 1.280 V
Vdimm : 2.576 V
Vivdd : 1.520 V
Vcc5V : 4.954 V
SB3V : 3.184 V
CPU FAN Speed : 4440 RPM
SYSTEN FAN Speed : 0 RPM
CPU Temperature : 72ºC/161ºF
SYSTEM Temperature : 32ºC/89ºF
: Move Enter: Select +/-/: Value F10: Save Esc: Exit
F1: General Help F9: Optimized Defaults

### CPU/System Temperature

These items display CPU and system temperature measurement.

### FANs & Voltage Measurements

These items indicate cooling fan speeds in RPM and the various system voltage measurements.

## Load Optimal Defaults

If you select this item and press **<Enter>** a dialog box appears. If you select **[OK]**, and then press **<Enter>**, the Setup Utility loads a set of fail-safe default values. These default values are not very demanding and they should allow your system to function with most kinds of hardware and memory chips.



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## Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility configuration. When the Save Changes and Exit dialog box appears, select [OK] to save and exit, or [Cancel] to return to the main menu.

## Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Discard Changes and Exit dialog box appears, select [OK] to discard changes and exit, or [Cancel] to return to the main menu.

---

***Note:*** *If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [OK] to discard any changes you have made.*

---



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# Chapter 4 Software & Applications

## Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 2000/XP, it will automatically install all the drivers and utilities for your motherboard; if Windows NT or manual installation, please follow the instructions described as the Installing under Windows NT or Manual Installation section.



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## Installing Support Software

1 Insert the support CD-ROM disc in the CD-ROM drive.
2 When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
3 The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.

The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.



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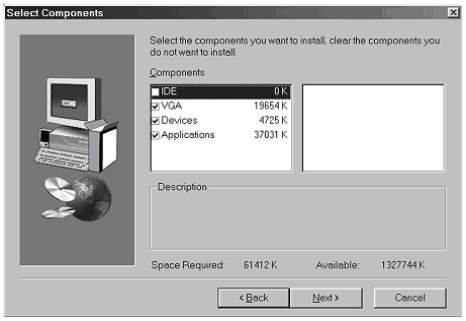
### Auto-Installing under Windows 2000/XP

If you are under Windows 2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

1 The installation program loads and displays the following screen. Click the **Next** button.

Welcome
Welcome to the MainBoard Setup program. This program will install MainBoard on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

2 Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.




3 The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.



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### Installing under Windows NT or Manual Installation

If you are under Windows NT, the auto-installing program doesn't work out; or you have to do the manual installation, please follow this procedure while the Auto Setup screen pops out after inserting the support CD-ROM:

1. Click the **ReadMe** to bring up a screen, and then click the Install Path at the bottom of the screen.
2. Find out your mainboard model name and click on it to obtain its correct driver directory.
3. Install each software in accordance with the corresponding driver path.

## Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

1. Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
2. A software menu appears. Click the software you want to install.
3. Follow onscreen instructions to install the software program step by step until finished.



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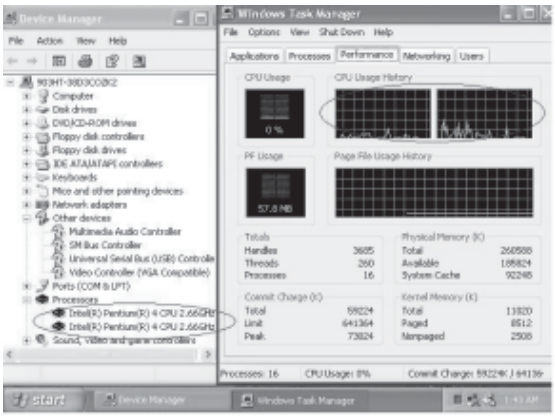
## Hyper-Threading CPU

While you are in Windows Task Manager, please push down ctrl+Alt Del keys. A dual CPU appears in the CPU Usage History&Device Manager under WinXP.




***Note**: Hyper-Threading Function only works under WINXP Operating System; therefore, disable it under other Operating System.*



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